## REMARKS

## INFORMATION DISCLOSURE STATEMENT

Applicants have enclosed a legible copy of Garnier et al.

## CLAIM REJECTIONS – 35 U.S.C. §102

Claims 6-11, 13, 14, 16-19, 22, and 25-27 were rejected under 35 U.S.C. §102(b) as being anticipated by U.S. 5,347,144 (Garnier et al.) which rejection is traversed.

Claims 6 and 7 have been amended so that there is at least one of the B-substituted monomers present and wherein B is a hydrogen atom or a side chain with 4 or fewer atoms. Support for this is shown on page 20, lines 10-11 of the Applicants' specification. The Examiner has not pointed out in Garnier et al. where there is found a third monomeric unit having the B sidechain. The dependent claims are patentable for at least the same reasons.

Claim 16 has been amended so the number of B-substituted thienylene units is from about 1 to about 6. Garnier et al. does not anticipate claim 6.

With regard to claim 11, the Examiner has not pointed out in Garnier et al. wherein the substrate is a plastic sheet of a polyester, polycarbonate, or a polyimide. Further, the Examiner has not shown in Garnier et al. wherein said gate dielectric layer is comprised of silicon nitride, silicon oxide, insulating polymers of a polyester, a polycarbonate, a polyacrylate, a poly(methacrylate), a poly(vinyl phenol), a polystyrene, a polyimide, an epoxy resin, an inorganic-organic composite material of nanosized metal oxide particles dispersed in a polymer, a polyimide, or an epoxy resin. Garnier et al. does not include all of the elements of claim 11.

**CLAIM REJECTIONS – 35 U.S.C. §103**

Claims 12-15, 32, and 33 were rejected under 35 U.S.C. §103(a) as being unpatentable over Garnier et al. in view of U.S. Patent Application 2002/0053320 A1 (Duthaler et al.) which rejection is traversed.

Applicants believe that the above-referenced claims are patentable for the same reasons given in response to the anticipation rejection of claim 6.

With regard to claims 12-15, 32, and 33, neither Garnier et al. nor Duthaler et al. discloses a substrate comprising a plastic sheet, or wherein the gate dielectric layer is comprised of an organic polymer of poly(methacrylate), polyacrylate, poly(vinyl phenol), polystyrene, polyimide, polycarbonate, or a polyester. The Examiner has failed to point out in either reference, a conductive ink or paste of a colloidal dispersion of a metal of silver or gold in a binder, and wherein the gate dielectric layer is an organic polymer or an inorganic oxide particle-polymer composite.

The Examiner has failed to point out in the references any suggestion, motivation or incentive for modifying either of the references to arrive at the combination of elements claimed by the Applicants. The Examiner has failed to establish a *prima facie* case of obviousness.

The prior art relied upon, coupled with the knowledge generally available in the art at the time of the invention, must contain some suggestion or incentive that would have motivated the skilled artisan to modify a reference or to combine references. *See In re Fine*, 837 F.2d 1071, 1074, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988); *In re Skinner*, 2 U.S.P.Q.2d 1788, 1790 (Bd. Pat. App. & Int. 1986).

Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching, suggestion or incentive supporting the combination. *In re Geiger*, 815 F.2d 686, 688, 2 U.S.P.Q.2d 1276, 1278 (Fed. Cir. 1987); *In re Laskowski*, 871 F.2d 115, 117, 10 U.S.P.Q.2d 1397, 1399 (Fed. Cir. 1989) ("[t]he mere fact that the prior art could be so modified would not have made the modification obvious unless the prior art suggested the desirability of the modification") (quoting *In re Gordon*, 733 F.2d 900, 902, 221 U.S.P.Q. 1125, 1127 (Fed. Cir. 1984)); "to invalidate claimed subject matter for obviousness, the combined teachings of the prior art references must suggest, expressly or by implication, the improvements embodied by the invention."

Claims 20, 21, and 28-31 were rejected under 35 U.S.C. §103(a) as being unpatentable over Garnier et al. in view of U.S. 6,320,200 B1 (Reed et al.) which rejection is traversed.

Applicants believe that the above-referenced claims are patentable for the same reasons given in response to the anticipation rejection of claim 6.

With regard to claims 20 and 21, the Examiner has failed to show in the references to Garnier et al. and Reed et al., any suggestion or motivation for modifying the references to arrive at a thin film transistor device with the combination of elements of claims 20 and 21, for example, a central monomer in the oligothiophene having a hydrogen atom. The Examiner has failed to point out in Reed et al. wherein there are more than 4 atoms in a side chain. The instant application requires 5 or more atoms in the sidechains of the "A"-substituted monomers.

Further, and with regard to claims 28-31, the Examiner has also failed to point out in the prior art relied upon why the skilled artisan would modify the thiophene monomers of Reed containing a hydrogen side chain, with the teachings of Garnier et al. The prior art relied upon, coupled with the knowledge generally available in the art at the time of the invention, must contain some suggestion or incentive that would have motivated the skilled artisan to modify a reference or to combine references. *See In re Fine*, 837 F.2d 1071, 1074, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988); *In re Skinner*, 2 U.S.P.Q.2d 1788, 1790 (Bd. Pat. App. & Int. 1986).

Claims 23 and 24 were rejected under 35 U.S.C. §103(a) as being unpatentable over Garnier et al. in view of U.S. 5,069,823 (Sato et al.) which rejection is traversed.

Applicants believe that the above-referenced claims are patentable for the same reasons given in response to the anticipation rejection of claim 6.

With regard to claims 23 and 24, the Examiner has not shown where Garnier et al. disclosed the weight average molecular weight or the number average molecular weight of the polythiophene. The Examiner has failed to show any suggestion for modifying or combining Garnier et al. with Sato et al. to arrive at the Applicants' invention. The Examiner has not pointed to any suggestion to pursue the particular order of manipulating the molecular weight for the polythiphene. The Examiner must show reasons that the skilled artisan, confronted with the same problems as the inventor and with no knowledge of the claimed invention, would select the elements from the cited prior art references for combination in the manner claimed. *In re Rouffet*, 149 F.3d 1350, 47 U.S.P.Q.2d 1453 (Fed. Cir. 1998).

"[T]he mere fact that the prior art could be so modified wouldnot have made the modification obvious unless the prior art suggested the

desirability of the modification", quoting *In re Gordon*, 733 F.2d 900, 902, 221 U.S.P.Q. 1125, 1127 (Fed. Cir. 1984).

Claim 34 was rejected under 35 U.S.C. §103(a) as being unpatentable over Garnier et al. in view of U.S. 6,232,157 B1 (Dodabalapur et al.) which rejection is traversed.

Applicants believe that the above-referenced claims are patentable for the same reasons given in response to the anticipation rejection of claim 6.

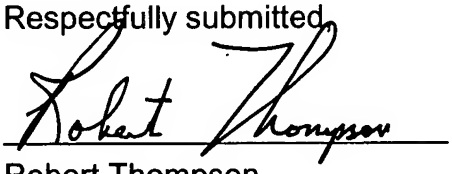
With regard to claim 34, the Examiner has not pointed out in Garnier et al. or Dodabalapur et al. a substrate of from about 10 micrometers to about 10 millimeters. Further, the Examiner has not pointed out in the references wherein a source or drain electrode is from about 40 nanometers to about 1 micrometer. The Examiner indicates that the source/drain electrode of Garnier et al. is "near" the instant claims, however, the Examiner fails, as is required, to show some objective teaching in Garnier et al. or that knowledge generally available to one of ordinary skill in the art would lead one of ordinary skill to modify or combine the relevant teachings of the references. *In re Fine*, 837 F.2d 1071, 1074, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988).

"[t]he mere fact that the prior art could be so modified would not have made the modification obvious unless the prior art suggested the desirability of the modification", quoting *In re Gordon*, 733 F.2d 900, 902, 221 U.S.P.Q. 1125, 1127 (Fed. Cir. 1984).

For at least the above reasons, Applicants are of the position that the rejected claims are patentable over the references, and accordingly respectfully request reconsideration and withdrawal of all grounds for rejection.

In the event the Examiner considers personal contact advantageous to the disposition of this case, he is hereby authorized to call Robert Thompson, at Telephone Number 585-423-2050, Rochester, New York.

Respectfully submitted,



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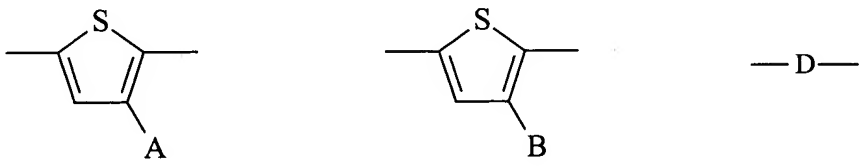
**VERSION WITH MARKINGS TO SHOW CHANGES MADE:**

**IN THE CLAIMS:**

6. (Twice Amended) A thin film transistor device comprised of a substrate, a gate electrode, a gate dielectric layer, a source electrode and a drain electrode, and a semiconductor layer comprised of a polythiophene derived from a monomer segment or monomer segments containing two 2,5-thienylene segments, (I) and (II), and an optional divalent linkage D

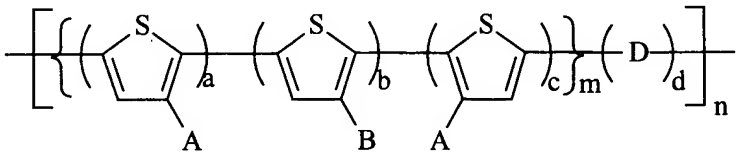



(I) (II)

wherein A is a side chain with at least about 5 atoms; B is hydrogen or a side chain; and D is a divalent linkage, and wherein the number of A-substituted thienylene units (I) in the monomer segments is from about 5 to about 10, the number of B-substituted thienylene units (II) is from 0 to about 5, and the number of divalent linkages D is 0 or 1.

7. (Amended) A thin film transistor device in accordance with **claim 6** wherein A is alkyl containing from about 5 carbon atoms to about 25 carbon atoms; B is hydrogen or a short chain alkyl containing from about 1 to about 4 atoms; and D, when present, is arylene or dioxyarene, each containing from about 6 to about 40 carbon atoms, or alkylene or dioxyalkane, each containing from about 1 to about 20 carbon atoms, and wherein said source electrode and said gate dielectric layer are in contact with said semiconductive layer.

16. (Amended) A thin film transistor device comprised of a substrate, a gate electrode, a gate dielectric layer, a source electrode and a drain electrode, and in contact with the source/drain electrodes and the gate dielectric layer, a semiconductor layer comprised of a polythiophene represented by Formula (III)



(III)

wherein A is a long side chain containing at least about 5 atoms; B is hydrogen or a short side chain containing from about 1 to about 4 atoms; and D is a divalent segment; a and c represent the number of A-substituted thienylenes, wherein a is at least 2; b is the number of B-substituted thienylene units and is from [0]1 to about 6; d is 0 or 1; and n is the degree of polymerization or the number of the monomer segments in the polythiophene.

Claims 35-37 are new.